

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
21 April 2005 (21.04.2005)

PCT

(10) International Publication Number
WO 2005/035747 A1

(51) International Patent Classification⁷: C12N 9/52. (74) Common Representative: NOVOZYMES A/S; 15/57, A23J 3/34 Krogshøjvej 36, DK-2880 Bagsværd (DK).

(21) International Application Number: PCT/DK2004/000688

(22) International Filing Date: 8 October 2004 (08.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PA 2003 01494 10 October 2003 (10.10.2003) DK
PA 2004 00333 1 March 2004 (01.03.2004) DK

(71) Applicant (for all designated States except US): NOVOZYMES A/S [DK/DK]; Krogshøjvej 36, DK-2880 Bagsværd (DK).

(72) Inventors; and

(75) Inventors/Applicants (for US only): DE MARIA, Leonardo [IT/DK]; Kong Georgsvej 4, 4th, DK-2000 Frederiksberg (DK). ANDERSEN, Carsten [DK/DK]; Højeloft Vænge 162, DK-3500 Værløse (DK). CHRISTENSEN, Lars, Lehmann, Hylling [DK/DK]; Sandholmgårdsvej 49, DK-3450 Allerød (DK). LASSEN, Søren, Flensted [DK/DK]; Gydebakken 3B, DK-3520 Farum (DK). ØSTERGAARD, Peter Rahbek [DK/DK]; Kvædevej 111, DK-2830 Virum (DK).

(81) Designated States (unless otherwise indicated for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/035747 A1

(54) Title: PROTEASE VARIANTS

(57) Abstract: The invention relates to a novel 3D structure encoding a Nocardiopsis protease, as well as to variants of parent protease homologous to Nocardiopsis proteases, preferably of improved thermostability and/or with an amended temperature activity profile. The invention also relates to DNA sequences encoding such variants, their production in a recombinant host cell, as well as methods of using the variants, in particular within the field of animal feed and detergents. The invention furthermore relates to methods of generating and preparing protease variants of amended properties.